



DEWA/GRID-Geneva

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UNEP GEO-5 Data and Indicators Working Group (DIWG) meeting at the European Environment Agency (EEA), Copenhagen, 1-2 March 2011

By JaapvanWoerden and Géraldine Boezio

UNEP and the EEA organized an expert meeting on data and indicators for the Global Environment Outlook (GEO) 5th assessment, which brought together various experts in environmental data and indicators, in order to:

1. Discuss inputs to the GEO-5 drafting process

The overall data needs for the GEO 5 assessment were reviewed, using the draft list of (core) indicators provided by most Chapter Working Groups. It was noted that many data and indicators can be obtained from the existing GEO Data Portal, while some ad-hoc requests of certain chapters for data sets and visualization/presentation will be addressed. The list of GEO-5 'top priority' indicators will need to be completed and verified, and linkages with other core sets of indicators explored (from the EEA, the Organisation for Economic Co-operation and Development, the United Nations Division for Sustainable Development, and so on).

2. Identify major data gaps and shortcomings for the GEO-5 assessment

Various examples of organization and management of data and indicators for environmental assessments were provided by the EEA staff and country representatives. The EEA focused on experiences and lessons learned with regard to Environment Information and Observation Network (EIONET), State and Outlook Environmental Reporting (SOER), Shared Environmental Information Systems (SEIS) and Core Set of Indicators (CSI). Opportunities to improve, present and share information were explored, e.g. by means of new and innovative applications such as the Eye on Earth initiative and the proposed UNEP-Live concept. Country presentations were given to look at specific and policy-relevant experiences and identify needs and opportunities at country or regional levels. Based on an earlier list of GEO-related major data gaps, an update of data gaps for GEO assessment and opportunities was prepared during the meeting. In addition to long-standing data gaps for waste collection, land degradation or water quality, additional ones were listed for current issues including ecosystem goods and services,

green economy and climate adaptation.

3. Identify opportunities for capacity development to address data gaps

Based on a background note, essential components of capacity building for environmental data and indicators were discussed, referring to UNEP's mandate in this area (Bali Strategic Plan) and pointing to efforts such as the United Nations Statistics Division (UNSD)/UNEP Environment Questionnaire, training workshops by UNSD with UN Regional

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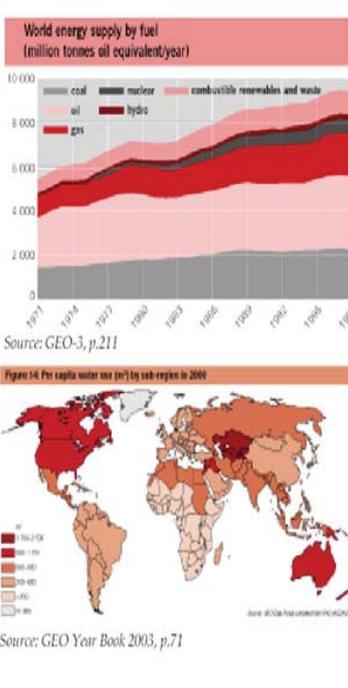
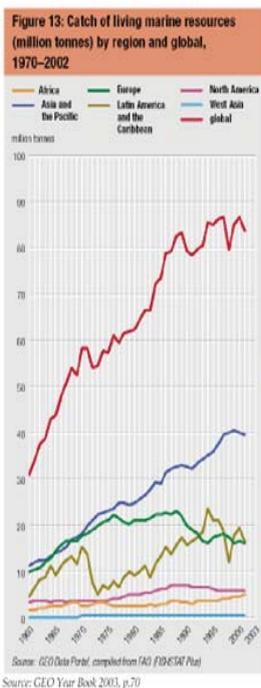
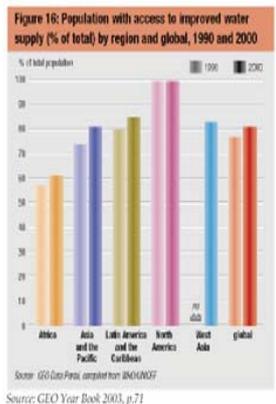
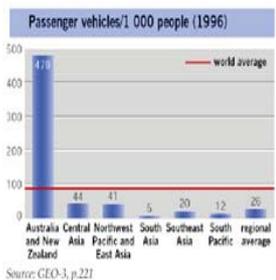
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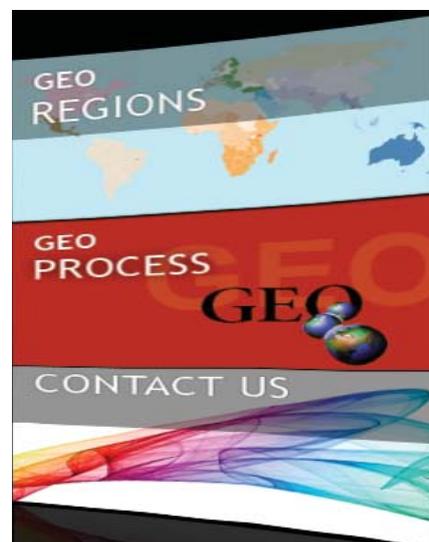
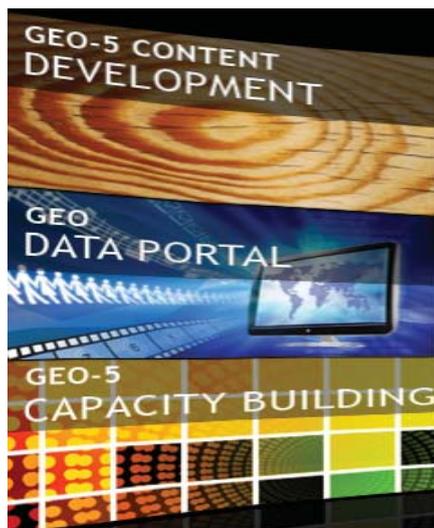
Kick-off meeting of the EU/FP7 AFROMAISON project



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GEO website.

Commissions and UNEP, working in existing partnerships and networks as the International Work Session on Water Statistics, Millennium Development Goals Indicators, GEOSS), as well as using recent technologies in areas of remote sensing, GIS, but also “citizen science” and social networks. In particular, a need for better institutional organization and management of environmental data was highlighted, calling for long-term and effective environmental information systems for critical data collection, analysis and dissemination.

The GEO-5 Data and Indicators Working Group is led by UNEP's Division of Early Warning and Assessment (DEWA) through its office in Washington DC/Sioux Falls as well as GRID-Geneva. GRID-Geneva has a long-standing involvement in the GEO process, focusing on core data and indicators and supporting tools such as the GEO Data Portal, which provides access to a wide

variety of up-to-date data from authoritative sources and customized for specific regions and sub-regions for use in GEO reports. The meeting made ample use of such experience through background documents such as the GEO Core Data Matrix, Major data gaps and shortcomings and Capacity Building needs – which were reviewed and updated in the meeting with the help of the participating experts, and will further assist and guide the GEO-5 assessment work in the coming months.

For more information, please go to:
<http://www.unep.org/GEO/>

European materials for GEO-5 begin to take shape

By Ron Witt

A first meeting of the GEO-5 Chapter Working Group for Chapter 4: “Options for Europe” (CWG-4) was held at UNEP's International Environment House on 18-20 January. The CWG-4 meeting brought together 15 experts (Coordinating Lead Authors, Lead Authors and Contributing Authors) from different European institutions, including the three main GEO Collaborating Centres for Europe (Central European University, the European Environment Agency and Moscow State University), to formulate a plan and timetable for the Chapter's development, and discuss how to apply the policy analysis methodology to be used therein. The latter is looking to highlight successful national and (European) regional policies for accelerating achievement of selected global environmental goals, including case studies.

As five different “key challenges/priority issues” are to be analysed in the European chapter (Air pollution/quality, Biodiversity, Chemicals and wastes, Climate change and Fresh water resources), the members of the CWG have specific assignments related to each of these subjects. Once the goals, objectives, and working practices for the meeting were understood by all, the members began working in small groups to research and prepare stories on successful policies implemented in each of the five relevant domains. For example, under the Biodiversity theme, the successful application (and extension) of the Natura 2000 network is a policy measure to be considered at global level.

By the end of the three-day period, initial materials had been developed for each of the five “key challenges/priority issue” areas, along with an initial set of “key messages” from the European region as to what is unique about policy-making processes and overall governance in Europe.

A single compiled document was subsequently uploaded to the GEO-5 ‘wiki’ (online application at UNEP Headquarters for the exchange and comment/editing of documents between CWG-4 members, and also with other chapters), which will be refined towards the ultimate “zero-draft” version of the Chapter 4 by mid-March. In the meantime, the CLAs/Lead authors and other contributors are continuing to research and compile various materials that will be used as input for this initial version of Chapter 4: “Options for Europe”.

UNEP support to the Government of Morocco

By Ron Witt and Géraldine Boezio

On 10-11 February 2011, the DEWA Regional Coordinator for Europe participated in a meeting with Moroccan counterparts to prepare a detailed project proposal to initiate UNEP support to the Moroccan government in the areas of environmental data/indicators, Integrated Environmental Assessment (IEA) reporting and network development. As a main feature of this exchange, the GEO Data Portal was presented in a live demonstration.

The importance of this broad national-level capacity development project goes beyond Morocco, as the U.S. Department of State (DoS) has offered to fund five more similar country-level programmes in Africa, assuming the Moroccan one is successful.

UNEP representatives undertook discussions with Moroccan counterparts of the Ministry of Energy, Mines, Water and Environment and its Department of Water and Environment (DWE) in Rabat at the Headquarters of DWE. The first morning was used for two presentations: from the Moroccan side on the DWE purpose and functions, the National "Observatory" for Environment and the series of regional observatories (16; one per region) which are under development, along with current major activities and responsibilities. From UNEP's side, the GEO Data Portal was presented, along with information on IEA training.

Participants developed a detailed workplan of the three major activities to be conducted - design and development of a national data portal / "Portail de l'Environnement du Maroc (PEM)", preparation of an IEA-style report for Morocco and development of a related network of partners - along with the specific tasks for each of these, a prospective timetable for the same, responsible parties and related costs.

The immediate next steps involve formalizing the project proposal and submission to the U.S. DoS, with the Moroccan DWE to approve and sign off first.

EnviroGRIDS at the 5th Group on Earth Observations (GEO) European Projects Workshop (GEPW-5) 8-9 February 2011, London, UK

By Nicolas Ray and Géraldine Boezio

As EnviroGRIDS is one of the flagship projects of the European Commission in support of the Group on Earth Observations (GEO) in the Ecosystem societal benefit area, GRID-Geneva was invited to participate in the 5th GEO European Projects' Workshop (GEPW-5).

The EU/FP7 EnviroGRIDS project (www.envirogrids.net) is coordinated by the University of Geneva and GRID-Geneva. Beginning in April 2009 for a duration of four years, the project is being carried out by a consortium of 27 partners located mostly in Eastern Europe. EnviroGRIDS is developing a Black Sea Catchment Observation System that will store, analyze, visualize and disseminate information on past, present and future states of the region, to assess and predict its sustainability and vulnerability. The Global Earth Observation System of Systems (GEOSS) is building a data-driven view of our planet that feeds into models and scenarios to explore our past, present and future. EnviroGRIDS aims at building capacities of its Black Sea partner institutions to feed the GEOSS with useful data sets and services. This process requires standardization of data and meta-data, in compliance with international standards and best practices.

GRID-Geneva staff made two presentations on:

- providing inputs in order to identify topics that the European Commission would like to have included in the 2012-15 GEO Workplan (WP); the EnviroGRIDS Management Board suggested (1) to transpose concepts, tools and lessons learnt in EnviroGRIDS to other regions (e.g. the Caspian Sea, the African Great Lakes), and (2) to further elaborate ecosystem-relevant workflows requiring massive geoprocessing, by making use of standardized Web Processing Services (WPS) coupled to distributed computing such as grid or cloud computing.

enviroGRIDS @ Black Sea Catchment

Build your SDI capacity for GEOSS and INSPIRE interoperability with enviroGRIDS...

Work together

Human capacity building strategy:

- Track policy and decision makers about GEOSS and INSPIRE
- Teach the technicians how to install a GEO server
- Teach the partners of the project to become the future trainers
- Organize a series of hands-on sessions in the Black Sea region
- Develop an e-learning platform
- Demonstrate the interest of GEOSS to end users
- Show the potential of GEOSS to the public

Think big!

People...

Infrastructure capacity building strategy:

- Promote OGC, GEOSS, INSPIRE, UNOS interoperability standards
- Create a new distributed SDI for the Black Sea catchment
- Build a GEO-enabled SDI for data storage and processing
- Connect real time sensors and remote sensing data
- Build an observation system for decision makers
- Build an observation system for citizens

Share...

Institutions...

Institutions capacity building strategy:

- Connect 27 partners to 15 countries
- Target the needs of the main end users: ESC PS and ICPR
- Prepare a Gap analysis
- Publish best-practices, procedures and policy briefs translated in regional languages
- Involve International Organizations as partners: UNEP, UNESCO, CEIS
- Integrate officially the work plan of UNEP and GEOSS
- Create close collaborations with other EC projects: GEDS-DR, EuroGEOSS, PEGASO, ACQUA...
- Work with IEEE for capacity building and quality assessment

Aiming at better than useful science... used science!

Logos: ICPR, UNEP, UNESCO, CEIS, PEGASO, ACQUA, etc.

EnviroGRIDS has developed its own capacity building strategy to strengthen people, institutions and infrastructures for GEO and INSPIRE activities in the Black Sea region.

- suggesting how the EnviroGRIDS's partners can contribute to the Collection of Open Resources for Everyone (CORE) data sets in the GEOSS. The GEOSS Data-CORE is a distributed pool of documented data sets, contributed by the GEO community on the basis of full and open exchange (at no more than the cost of reproduction and distribution) and unrestricted access. It is foreseen that the EnviroGRIDS consortium will be able to contribute with several CORE data sets through its various activities.

The participation in this event was a very good opportunity for GRID-Geneva to foresee the directions and priorities of work for both GEO and the European Commission, to strengthen the network of contacts within this community, as well as to further a set of activities which contribute to UNEP's Programme of Work under the Climate Change and Ecosystem Management sub-programmes.

Launch of the “Global Honey Bee Colony Disorders and Other Threats to Insect Pollinators” report

By Géraldine Boezio

The latest GRID-Geneva report entitled “Global Honey Bee Colony Disorders and Other Threats to Insect Pollinators” was launched at UN Headquarters in Geneva on 10 March 2011.

This bulletin highlights a decrease in managed honey bee colony numbers across the globe during the last decades. It considers the negative impacts of human activities on insect pollinator health and consequently on the ecosystem services they provide. Several recent scientific studies have emphasised different factors leading to the possible decline of wild and managed insect pollinators. These factors, ranging from the use of chemicals to invasive species and habitat deterioration, may be behind the emerging decline of bee colonies across many parts of the globe. As the bee group is the most important pollinator worldwide, this bulletin focuses on the instability of wild and managed bee populations, the driving forces, potential mitigating measures and recommendations.

Declines in managed bee colonies date back to the mid-1960s in Europe but have accelerated since 1998, especially in Belgium, France, Germany, Italy, the Netherlands, Spain and the United Kingdom. In North America, losses of honey bee colonies since 2004 have left the continent with fewer managed pollinators than at

any time in the past 50 years. Chinese bee keepers, who manage both western and eastern species of honey bees, have recently “faced several inexplicable and complex symptoms of colony losses in both species”. A quarter of beekeepers in Japan “have recently been confronted with sudden losses of their bee colonies”. In Africa, beekeepers along the Egyptian Nile have been reporting signs of ‘colony collapse disorder’, although to date there are no confirmed reports from the rest of the continent.

Scientists are warning that without profound changes in the way humans manage the planet, declines in pollinators needed to feed a growing global population are likely to continue. The authors of the report call for farmers and landowners to be offered incentives to restore pollinator-friendly habitats, including key flowering plants including next to crop-producing fields.

The full report can be downloaded at: http://www.grid.unep.ch/product/publication/download/Global_Bee_Colony_Disorder_and_Threats.pdf

The UNEP Foresight Process

By Pascal Peduzzi and Géraldine Boezio

The UNEP Foresight Process is a project designed by the UNEP Chief Scientist to identify the main emerging environmental issues based on a broad-scale consultation. The purpose of the UNEP Foresight Process is to provide every two years a careful, authoritative ranking of the most important emerging issues having to do with the global environment. The first objective of the Foresight Process is to inform the UN and the global community as the key source of information about emerging issues. The second objective is to identify emerging issues that should be considered in the planning of UNEP’s programme of work.

UNEP/GRID-Geneva is in charge of implementing the project and DEWA-Nairobi has the responsibility of organising the Electronic Consultation.

The UNEP Foresight Process ensures a broad consultation through the five following phases:

1. *The UNEP Consultation* – The Science Focal Points canvass the UNEP community, divisions and Multilateral Environmental Agreements (MEAs) to identify important emerging issues. Based on the information gathered, UNEP prepares a background report compiling the views of the UNEP community for the First Expert Panel Meeting.
2. *First Expert Panel Meeting* – The Expert Panel consists of a combination of external and internal experts. At the first meeting, the Panel decides on a preliminary list of emerging issues and topics based on their own expertise and on the background report from phase 1. The panel’s considerations are summarised in a brief synopsis of preliminary issues identified at the First Expert Panel Meeting.
3. *Electronic Consultation* – During this consultation (Delphi consultation), several hundred scientists (up to 600) are asked to comment and rank a preliminary list of issues. Participants receive the background document described in phase two so that they can better understand the issues under consideration. Results are evaluated and summarized in the report: “Evaluation of Delphi Results”.
4. *Second Expert Panel Meeting* – The Expert Panel meets a second time to discuss the results of the Delphi consultation and agrees on and ranks a



“Global Honey Bee Colony Disorders and Other Threats to Insect Pollinators” report.



Participants at the Expert Panel Meeting.

final list of issues. This ranking can be different for each region, as top issues might differ from one region to another.

5. *Reporting* – UNEP staff summarise the findings in a document entitled “Emerging Issues”.

How will this information be used?

The identification of the main environmental issues based on this consultation carries a very strong message to the world community. The report stemming from the UNEP Foresight Process has several purposes:

- It will be a major contribution of UNEP to the “Emerging Issues” theme of the Rio 2012 Earth Summit.
- It will be presented at the Global Ministerial Forum – as an input to the discussions on future issues for UNEP and

the global environmental community.

- It will be presented to the Global Environmental Facility (GEF) Council and its Scientific and Technical Panel – as direct input to discussions on future programs of GEF.
- It will provide inputs for the preparation of the UNEP Programme of Work (PoW) through briefings for UNEP senior managers.
- It will contribute to the “Emerging Issues” chapter of the next UNEP Global Environment Outlook (GEO-5) report through meetings with GEO-5 staff.
- It will supply inputs for the selection of issues included in the UNEP Annual Yearbook.
- It will provide guidance to identify subjects in which the scientific community requires more knowledge. This will help the scientific community and institutions to finance

research that better targets needs to bridge the knowledge gaps.

Following the identification of the main emerging environmental issues, the next step is to implement environmental policies and take concrete actions to mitigate the impacts of these issues.

The first task of the Expert Panel was to provide its own set of 40 proposals. Both UNEP’s 68 and the experts’ 40 proposals were merged into one table including 108 issues. The First Expert Panel Meeting was held in Geneva on 21-23 March 2011. Experts from around the world, including physical scientists, environmental scientists and social scientists attended. The meeting’s aim was to reduce the list of 96 issues to a much smaller number (21). These are currently (April 2011) being ranked by hundreds of scientists selected by the Scientific Committee on Problems of the Environment (SCOPE).

The next Expert Panel Meeting will be held near Geneva on 2-4 May 2011 and will have the difficult task to further reduce the list of issues so that final recommendations can be made.



Group photo of the participants at the Expert Panel Meeting.

Kick-off meeting of the EU/FP7 AFROMAISON project
21-25 March, Johannesburg, South Africa

By Gregory Giuliani, Yaniss Guigoz and
 Géraldine Boezio

GRID-Geneva attended the AFROMAISON kick-off meeting that was held in the Drakensberg area, which is South Africa's case study location for this project. During the meeting, the roles of the various partners were detailed and clarified, and a calendar with deliverables was set up to make sure partners provide their products on time.

AFROMAISON aims to propose concrete strategies for Integrated Natural Resources Management (INRM) in Africa, in order to adapt to the consequences of climate change. It is funded by the 7th Framework Programme of the European Union. AFROMAISON has a budget of four million euros and a runtime of three years (March 2011-2014). The consortium is composed of fifteen partners equally divided between Europe and Africa.

Africa appears to be very vulnerable to climate change. This can lead to both larger water shortages and greater impacts due to natural disasters. It is expected that climate change will outpace the large efforts currently being State and Outlook Environmental Reporting (SOER) 2010 made to eradicate poverty. AFROMAISON will propose sustainable solutions for communities and authorities in their operational management and strategic policy of natural (water) resources, and help them in their fight against climate change. Natural resources are essential, especially in Africa, for maintaining or improving peoples' livelihood. Despite the availability of many tools, expertise, local practices and indigenous knowledge, the concept of INRM has hardly been brought into practice. Given the similarity with Integrated Water Resources Management (IWRM), AFROMAISON partners will learn from the large effort made by the European Union (EU) and Africa in the last decade, to improve access to the expertise and the many existing tools. AFROMAISON will make use of what is available regarding INRM and will contribute to a better integration and fitting of the following key components of INRM at a meso-scale level:

- Landscape functioning (regarding the delivery, use and access to goods and services provided);
- Livelihood and socio-econom-



Kick-off meeting in Drakensberg.

- ic development (including vulnerability to global change);
- Indigenous knowledge and practices (to take local traditions, cultural norms, specific acceptance structures into account);
- Institutional strengthening and improved interaction between sectors, scales and communities.

For AFROMAISON to succeed, active support of authorities and stakeholders at the meso-scale level is essential, as well as a solid dissemination and capacity building strategy.

The goal of AFROMAISON is to provide a holistic toolbox and operational framework for INRM that can be applied in a variety of environmental and socio-economic conditions in Africa. At the same time, following a participatory analysis of opportunities and challenges, it endeavours to provide participatory management options for the operational INRM, which are embedded in local traditions and culture, and are scientifically sound.

The word AFROMAISON has a triple meaning. Firstly, AFROMAISON links to the French word for house (maison). As visualized by the pyramids, the building blocks are the tools, strategies, expertise and methodologies that are available for different components of INRM. Often, these building blocks are available, but scattered, and neither integrated nor operational at the meso-scale. In AFROMAISON, the aim is to make use of what is available as a starting point, whilst going one step further than the mere compilation of available tools by looking into the integration of tools with a focus on

the operational requirements of INRM.

Secondly, AFROMAISON refers to the meso-scale in Africa. Due to the relative youth of meso-scale authorities and institutes, their capacity for INRM needs to be strengthened. From a natural resources point of view, the meso-scale corresponds to a landscape, an ecosystem or a river (sub)basin. Yet, the landscape, the ecosystem or river basin as working units for INRM do not match administrative boundaries, thus requiring coordination between authorities at different levels and regions. Thirdly, a house can be used as a daily life metaphor for the landscape. In a house, many people live under one roof and must share resources and find compromises when conflicts occur. Moreover, regular maintenance works need to be done in a house requiring all occupants to do their part. This is also the meaning of INRM: many people living in a landscape and needing to share their resources.

Five case study sites (covering deserts, highlands, wetlands, grasslands, tropical humid forest and mountain forest) have been selected. Each case study has a specific focus as a response to specific pressures, policies and other local conditions. However, tasks will





Field trip in Drakensberg.

not be limited to this focus area and different aspects of integrated responses will be considered. Fundamental in all cases is access to land, water and wood. All AFROMAISON project partners have previously been engaged on related projects in these areas. The ambitious goals of this project can only function thanks to the rich data and expertise that have already been gathered.

To develop and test a framework for INRM and to transfer results across case studies, sites throughout Africa have been chosen taking the following criteria into consideration:

- Multi-functional landscape (both protected and non-protected areas);
- Strong competition of uses of natural resources and degradation of natural resources;
- High vulnerability;
- Strong local partners with good knowledge of pressing issues in INRM;
- Established networks with stakeholders and authorities;
- Work done in previous or current projects on at least one of the thematic focal points;
- Area between 5,000 km² - 50,000 km².

The following five case study areas were chosen:

- Enkangala Grasslands / Drakensberg (South-Africa);
- Inner Niger Delta (Mali);

- Albertine Rift and Rwenzori Mountains (Uganda);
- Oum Zessar Watershed (Tunisia);
- Headwaters of the Blue Nile (Ethiopia).

The University of Geneva (UniGe)/GRID-Geneva is the leader of Work Package 8 on "Dissemination, capacity building and end-user involvement". The general objective is to promote policy impact and the uptake of research results from the case study by international institutes and platforms:

- Multi-disciplinary capacity building and strengthening of ownership;
- Better exchange of information, communication and cooperation across sectors and scales;
- Implement Spatial Data Infrastructure (SDI) and geo-webservices;
- Organise stakeholder workshops at the case studies;
- Organise an international policy workshop and two final conferences;
- Outreach to international platforms with the aim to integrate the projects' outcomes into short- to long-term work plans;
- Strengthen existing partnerships and build new ones both with local actors at case study level and with international platforms and institutions.

More information can be found here: <http://www.afromaison.net>



Land erosion in Drakensberg.

Calendar of events

UNEP Foresight Process on Emerging Environmental Issues Experts Meetings n°2, Divonne (France), 2-4 May

Group on Earth Observations (GEO) Work Plan Symposium, Geneva, 4-6 May

GEO-5 Chapter Working Group (CWG-10) "Options for Europe" Authors' Meeting, Geneva, 9-11 May

Global Platform on Disaster Risk Reduction, Geneva, 10-13 May

Special Session of the UNECE's Committee on Environmental Policy (CEP), Geneva, 24-27 May

8th Meeting of the International Resource Panel, Helsinki, 29 May-01 June

Internal Review Meeting on the first draft of the State of Environment Report, Sarajevo, 30 May-3 June

World Environment Day, 5 June

GEO-5 2nd High Level Intergovernmental Advisory Panel, Chavannes de Bogis (Switzerland), 15-17 June

Programme of Research on Climate Change, Vulnerability Impacts and Adaptation Steering Committee Meeting, Geneva, 20-22 June